

NONTECHNICAL ABSTRACT OF PROTOCOL

Many patients have advanced cancer that has not responded to standard therapies. For these patients, a new approach to treat their cancer (tumor) will be tested. Animal studies have been done using cancer cells into which a cancer fighting gene has been placed. When these modified cancer cells are returned to the animal the animal can fight the cancer cells better. The returning of the gene modified cancer cells can be helpful in fighting the cancer cells in several ways.

1. Injecting tumor cells under the skin has shown to increase the responses of the animal's white cells in fighting the tumor cells.
2. Before returning the cancer cells, they can be made to release a potent white cell activating factor (tumor necrosis factor) by placing the gene for tumor necrosis factor into the tumor cells. If these gene modified cancer cells are used, the release of tumor necrosis factor (necrosis means death) by the cancer cells further increases the ability of the animal's white cells to fight the cancer cells by activating these white cells.
3. In addition, it is possible to remove the activated white cells from the animal. These activated white cells can be grown up in the presence of interleukin-2 to very large numbers in the laboratory. If this large number of activated white cells grown in the laboratory is returned to the animal along with more interleukin-2, they also help fight the cancer cells in the animal.

If all three parts are used together, an animal that would die from its cancer can now kill its cancer cells and live.

This protocol is designed to copy the results obtained with the animals. Patients with cancer who have not responded to therapy will have a piece of their cancer cut out and brought to the laboratory. In the laboratory the cancer cells will be grown. The tumor necrosis factor gene will be put into the patient's cancer cells. The patient's cancer cells are now producing tumor necrosis factor and are grown in the laboratory. These cancer cells are then injected under the skin of the patient. In a few weeks white cells are removed from the area of injected cancer cells and grown to large numbers in the laboratory in the presence of interleukin-2. These cells along with interleukin-2 are then given to the patient. During this time and afterwards the patient is watched for signs that the therapy may be helping destroy their cancer. Since this therapy is new, it is not known how well it will work in people. The patients will also be watched for possible harmful effects from the therapy. After many patients with many different kinds of cancer have this new therapy, the doctors will be able to tell how safe this new therapy is and how well it works.